Lesson 78 - Reproductive Problems Of Men And Woman

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1. Introduction

When you study the physiology of the male and female reproductive system, you will see the delicate interaction of organs, nerves, tissues, cells and hormones. Disturbance of one part affects the whole system. Likewise, disturbance of any organ of the body affects the whole organism. Thus, when there is any disorder in one organ of the reproductive system you should not consider it as a single disease entity. It is simply one symptom indicating that your entire body is sick and in need of repairs.

As with all other "diseases" that we have been discussing in previous lessons, reproductive problems should not be "treated" at all. First look for the underlying causes and correct those errors in your general lifestyle that resulted in these abnormalities. Health will be restored when the conditions for health are provided.

In this lesson, we will discuss some of the more common reproductive disorders. First of all, we will have a review of the male and female reproductive system. A general knowledge of anatomy and physiology will enable you to communicate with your clients in an understanding and intelligent manner.

2. The Reproductive System

The reproductive system is unique among the organ systems. The organs of this system vary greatly between the sexes. Male and female children do not differ remarkably in body form until they reach the age of puberty. At this time, under the influence of hormones, striking changes occur in several systems. The voice gradually changes in the male to a deeper masculine tone; the beard becomes a little stronger; pubic, axillary and body hair develop; and the body gradually assumes the characteristics of the adult male. The body form of the adult male develops increased musculature, with broader shoulders and narrow hips. The female at puberty develops a feminine contour due largely to deposition of subepidermal fat and she mammary glands become larger. The internal and external genitalia approach maturity, and the gonads begin to produce mature sex cells.

2.1 Female Reproductive System

The internal reproductive organs of the female are the ovaries, fallopian tubes (or oviducts), the uterus and the vagina. The ova arise and develop in the ovaries. When they are mature, they rupture from the surface of the ovary and pass down the fallopian tubes to the uterus. If the ovum is fertilized during is passage down the oviduct, the developing blastocyst becomes implanted in the lining of the uterus. If it remains unfertilized, it soon breaks down and becomes lost in mucous secretion. The uterus leads into the vagina, which is a narrow passageway opening to the exterior.

2.1.1 Ovaries

The paired ovaries lie on either side of the uterus and below the fallopian tubes. The internal structure of the ovary consists of a connective-tissue framework, which supports the developing germ cells, muscle cells, blood vessels and nerves.

The ova develop within the ovarian follicle. The various stages of oogenesis are passed there, and the developing ovum in one of the more mature follicles is in reality a primary oocyte. Follicles develop under the influence of the follicle-stimulating hormone (FSH) and luteinizing hormone (LH) originating in the pituitary gland. From puberty to menopause, mature follicles approach the surface of the ovary and rupture mature ova through the surface at fairly regular monthly intervals in the process known as ovulation. Ovulation occurs about the middle of the 28-day menstrual cycle, but the follicle cells persist, undergoing a transformation into the corpus luteum.

2.1.2 Corpus Luteum

After ovulation, the follicular cells enlarge and increase in numbers so that the number of cell layers increases. The cavity of the old follicle becomes filled with blood, but the blood is gradually resorbed as new cell layers fill in the cavity. Connective tissue and blood vessels grow in from a connective-tissue layer surrounding the old follicle. A yellowish thick-walled body called the *corpus luteum* replaces the old follicle. The cell cytoplasm contains a lipid substance known as *lutein*. In the period between ovulation and menstruation the corpus luteum secretes the hormones progesterone and estrogen, which exert a sustaining influence on the lining of the uterus. If the ovum is not fertilized, the corpus luteum begins to degenerate toward the end of the menstrual cycle and menstruation follows. If the ovum is fertilized, the corpus luteum of pregnancy reaches the height of its development about the third month, after which it begins to degenerate.

2.1.3 Fallopian Tubes

The tubes that conduct the ova from the ovaries to the uterus are usually called oviducts in animals. In

humans they are more commonly referred to as fallopian tubes, or uterine tubes. They lie in a horizontal position above the ovaries. The far ends near the ovaries flare out in a funnel-like fashion. The funnels bear fringed processes called fimbriae which aid in guiding the ovum into the tube.

2.1.4 Uterus

The uterus is a thick-walled organ located in the upper part of the pelvic region. Its function is to receive the blastocyst and to provide protection and nourishment to the developing embryo and fetus after implantation. The position of the uterus varies, but it is usually tipped forward over the urinary bladder. The lower part of the uterus is more cylindrical in shape and is called the cervix. Its external orifice opens into the vagina.

2.1.5 Vagina

A canal leading from the vestibule of the external genitalia to the cervix of the uterus is called the vagina. The vagina receives the penis of the male during sexual intercourse; a seminal emission releases sperm near the external orifice of the uterus. At childbirth the vagina becomes greatly distended to form the birth canal from the cervix to the exterior.

The external orifice of the virginal vagina is partially closed off by a fold of membrane known as the hymen.

2.2 Male Reproductive System

2.2.1 Testes

Spermatogenesis takes place in the testes. The testes descend from an abdominal position before birth and come to lie in a sac called the scrotum. Occasionally the testes fail to descend into the scrotum, a condition known as cryptorchism. Undescended testes are almost invariably sterile, although they produce the male sex hormone.

2.2.2 Epididymis

Immature sperm are not motile but are propelled up through the convoluted tubules into a network of fine tubules and on into the ducts of the epididymis. The epididymis is a body containing a tightly convoluted tubule and is located behind the testis.

2.2.3 Vas Deferens

The duct of the epididymis is continuous with a larger duct, the ductus deferens or vas deferens, which leads the sperm away from the testis. The vas deferens extends upward from the testis through the spermatic cord. It passes through the inguinal canal, over the pubic arch, and behind the urinary bladder to terminate in the ejaculatory duct. The right and left ejaculatory ducts open into the urethra within the prostate gland. They are much smaller ducts than the vas deferens and only two centimeters long.

2.2.4 Seminal Vesicles

The seminal vesicles are lobulated sacs located behind the surface of the bladder. They secrete a fluid that forms a part of the semen. The fluid passes down a small duct and enters the ejaculatory duct. It is thought to contribute to the viability of the spermatozoa.

2.2.5 Prostate Gland

The prostate gland is a muscular and glandular organ that is located below the bladder and in front of the

rectum. The base of the urethra passes 'through it. The prostatic secretion is alkaline, somewhat milky, and contributes to the odor of semen. The base of the urethra runs almost vertically through the anterior portion of the gland when the body is in a standing position.

2.2.6 Penis

The penis is the copulatory organ of the male. The body of the penis is composed of three longitudinal columns of erectile tissue. Erectile tissue is composed of blood spaces, which ordinarily are not distended with blood, the penis then being soft and flaccid. Sexual excitement causes blood to pour into these spaces faster than it is drained away by the veins. As a result the walls of the tissue become distended with blood, and the penis becomes hard and erect. It is in this condition that it is inserted into the vagina in the act of sexual intercourse. After sexual excitement has passed, blood is drained out of the erectile tissue and the penis becomes soft again. Erectile tissue is also present in the clitoris.

The smooth tip of the penis is the glans portion and is covered by loose skin called the foreskin or prepuce. Sometimes the foreskin covers the glans too tightly or, becomes adherent if this area is not cleansed properly. Circumcision is an operation to remove the foreskin. The operation may be complete or partial. The area behind the glans contains modified sebaceous glands that secrete a soft, whitish substance, which soon deteriorates. The reason given by physicians for performing circumcision is to expose the surface of the glans and make it easier to clean the area where the secretion has collected. This is an unnecessary and cruel operation. Daily cleansing of this area will keep it clean so that secretions will not collect. You need not worry about the skin becoming adherent if you keep this area clean.

3. Menstruation

All the structural and physiologic changes in the uterus that occur during a female sexual cycle depend on the secretion of estrogens, chiefly estradiol and estrone.

Following the onset of puberty and menarche, follicle-stimulating hormone (FSH), secreted by the anterior pituitary, is responsible for the early maturation of ovarian follicles. Later in the menstrual cycle, a combination of FSH and luteinizing hormone (LH) underlies final maturation of the ovum. Ovulation takes place following a sudden increase in pituitary secretion of LH.

Secretion of FSH and LH by the anterior pituitary are regulated by FSH-releasing factor and LH-releasing factor. These releasing factors originate in the hypothalamus and are transported directly to the pituitary via a specialized portal vascular system.

Circulating estrogens apparently act directly on the hypo-thalamus to inhibit secretion of FSH releasing factor by the pituitary, thus to decrease FSH secretion. In addition, the increase in circulating estrogens observed immediately prior to ovulation is responsible for producing the sudden rise in LH secretion that stimulates ovulation. Secretion of FSH and LH by the anterior pituitary is inhibited by the elevated levels of estrogen and progesterone in the circulation during the luteal phase of the menstrual cycle. Thus the body maintains equilibrium.

3.1 Endometrial Changes During The Menstrual Cycle

Throughout each sexual cycle, the endometrium of the uterus exhibits a sequence of changes. These changes may be divided into three phases that relate to the functional state of the ovary.

1. *Follicular Phase* - This phase takes place simultaneously with growth of the ovarian follicles and the secretion of the ovaries of estrogen hormones. The endometrium increases in thickness and the tubular glands increase both in length and in number. The coiled uterine arteries elongate somewhat
   In the average unhealthy women, the endometrium increases in thickness about threefold. If you are living healthfully, these changes may not be so great.
2. *Luteal Phase* - The luteal phase takes place following ovulation, when the corpus luteum is functionally active and is secreting progesterone. As the glands grow they become more or less contorted depending on your state of health and your body's ability to carry on in a normal fashion. The coiled arteries lengthen and become more :oiled during the luteal phase. Eventually, they grow into he superficial region of the endometrium. Again, these changes are subtle in the healthy individual.
3. *Menstrual Phase* - If fertilization fails to intervene, then two weeks after ovulation endometrial stimulation by ovarian hormones decreases and alterations in the vascular supply to the endometrium occur. Profound changes occur n the toxic individual, subtle changes in healthy women.

Prolonged vasoconstriction of the coiled arteries results in a decreased blood flow to the superficial part of the endometrium lasting up to several hours. Secretion by the lands of the uterine mucosa ceases. Following about two ways of alternating vasoconstriction and vasodilation, the oiled arteries shut down, while blood flow is still mainlined in the basal vessels. Thus, the superficial region of the endometrium becomes highly ischemic (lack of blood in that area). After several hours, however, the constricted vessels open again for a short interval. The vessels that were deprived of oxygen near the surface rupture. Blood flow flows into the uterine lumen.

Ultimately, fragments of the endometrial tissue become detached from the surface, leaving the ruptured ends of the arteries, veins and glands open.

The deeper endometrial layer remains intact during menstruation, and even before vaginal discharge is complete, epithelial cells from the ends of the glands begin to move out. These rapidly generate a new surface ephithelium. The circulation is restored, and the follicular phase of the next cycle commences.

3.2 Menstrual Abnormalities

Extremely heavy flow, pain and cramps during the menstrual cycle is abnormal. These symptoms indicate toxicity and the need for a fast and general renovation of your lifestyle. A healthy individual should experience no pain during this time and a flow of short duration. Some Hygienists experience no flow at all and this is also considered normal. A sick individual could also experience absence of menstrual flow and this could be due to several reasons. Hormonal imbalances, extreme weakness and underweight (due to a state of toxicosis), trauma, etc., could result in cessation of menstruation. A fast and a change in lifestyle is in order in this case. After health has been restored, menstruation may or may not recommence. If it does, flow will be light and there should be no pain.

3.3 Premenstrual Tension

This condition occurs seven to ten days before menstruation and disappears a few hours after the onset of menstrual flow. It is characterized by nervousness, irritability, emotional instability, depression and may include headaches and edema. It seems to be related to fluctuations in estrogen and progesterone and to the fluid-retaining action of estrogen.

During some of his experiments with rats, Dr. Hans Seyle found that an excess of progesterone "acts very much like an excess of alcohol, ether and certain narcotics which tend to cause excitement followed by depression."

Other studies show that during the menstrual cycle, changes occur in carbohydrate metabolism, in adrenal production of corticosteroids, and in other functions. You can not pinpoint it to any one thing as the whole body is involved. Hygienic practitioners have found that these symptoms often disappear following a few short fasts and an improved lifestyle.

4. Vulvitis

Vulvitis is inflammation of the vulva. It may be the result of trauma; mechanical and chemical irritations; neglect of Hygiene; local reactions to clothing, detergents or drugs. Systemic antibiotic therapy, excess moisture and irritation from tight pantyhose, the use of oral contraceptives, may also result in vulvitis. It may also occur in diabetics indicating systemic toxemia.

4.1 Symptoms

Acute vulvitis is marked by edema and redness of the vulva, burning and itching. Pain may be so severe that the individual can neither sit nor walk. Ulceration, pustules or vesicle formation may be present in the most toxic individuals.

Chronic vulvitis occurs when the acute form is suppressed over a long period of time and the causes for this disorder are not removed or corrected. In the chronic form, the inflammatory reaction is less severe. Due to enervation, the body is less able to respond normally. Edema may be severe with extreme itching. Ulcerative lesions may result in destruction of the vulva. In either case, the area involved may be localized or may include the entire vulva and perineum and extend to the mons, thighs and anus.

4.2 What to Do When Symptoms Occur

Usual treatment consists of assorted drugs and creams. We know that such treatments never result in health and only worsen the situation. If fasting is instituted during the acute phase and a Hygienic lifestyle is adhered to, health will be restored. Even the chronic form can be helped through a Hygienic regime, if tissue destruction has not progressed too far.

5. Salpingitis

Salpingitis is inflammation of the fallopian tubes. This condition occurs most often with women who use intra-uterine devices (IUDs). According to the *Merck Manual*, "The principal pathogen is *Neisseria gonorrhoeae*; but others, including gram-negative bacilli and gram-positive cocci, as well as *Mycoplasma* and viruses, are being implicated with increasing frequency. ... When salpingitis follows pregnancy or abortion, anaerobic streptococci or staphylococci are usually involved." This is the medical viewpoint. As students of Life Science, you know that bacteria or viruses do not cause disease even though they may be found associated with these disorders. An extreme case of toxicosis is always the underlying cause.

5.1 Symptoms

Acute salpingitis: Severe lower abdominal pain increases progressively with tenderness and discomfort that increases with cervical motion. High fever, leukocytosis, and copius purulent discharge from the cervix are common. The above symptoms are normal bodily responses to abnormal conditions. The body discharges toxic materials via these routes.

Chronic salpingitis may follow an acute episode that has been suppressed by drugs. There may be tubal and pelvic scarring and adhesions, chronic pain, menstrual abnormalities, and, possibly, infertility. An obstructed tube may be filled with toxins. Chronic interstitial salpingitis has reached the sixth stage of disease, enduration, and the tube is enlarged due to the thickened wall.

As you can see, it is not the N. gonorrhoeae bacteria that caused this disease but the accumulation of toxins due to a variety of unhealthful practices. Substitution of these practices with more healthful ones when symptoms first appear will result in health. Do not wait until enduration occurs. At this point health may still be restored after a series of fasts and healthful living between fasts, but you should not let your body deteriorate down to that point.

6. Menopause

Menopause results from declining ovarian function and usually occurs between ages 40 and 50, but in the healthy individual it would occur much later in life. As the ovary atrophies and ceases to respond to gonadotrophic stimulation, the few remaining follicles undergo retrogression and urinary gonadotropin excretion increases sharply.

Menopause should be asymptomatic. When symptoms do appear, they are due to estrogen deficiency and autonomic nervous system responses may be severe and last a few months or years. Hot flushes and sweating are due to vasomotor instability. However, the primary underlying cause is toxicosis. Other symptoms that may appear in the unhealthy person include nervousness, fatigue, lassitude, depression, irritability, insomnia, palpitation, numbness and tingling, urinary frequency and incontinence, and varied gastrointestinal disturbances. Back pain may be due to osteoporosis.

These symptoms appear only in unhealthy, toxic women.

7. Carcinomas

Carcinomas of the female reproductive tract may appear almost anywhere along that tract. It may be seen on the endometrium, cervix, ovaries, vulva, vagin or fallopian tubes.

If cancer is known or suspected to exist, the usual treatment is partial or radical hysterectomy. The uterus is removed plus the ovaries in a radical hysterectomy. This procedure does not restore health. In all such cases, disease has progressed through all seven stages. If, however, disease is still in the sixth stage, recovery is still possible under Hygienic care. If it has advanced to cancer, Hygienic care may offer comfort and may slow down the cancer.

Many misdiagnosis have been made regarding carcinomas of the uterus and Hygiene should be the first resort not the last, as is often the case.

8. Oral Contraceptives

There are two major categories of oral contraceptives. They are combination and progestogen only. The combination types contain both a synthetic estrogen and a synthetic progestogen and are given continuously for three weeks. No medication is given for the fourth week to allow for "withdrawal bleeding." Progestogen alone is given in small doses every day but this form of oral contraceptive is not used frequently due to its more severe consequences.

8.1 General Effects

Many effects such as nausea, breast tenderness, fluid retention and depression are related to the dose of synthetic estrogen. Progestogens result in weight gain, acne and nervousness. In addition to effects on the female genital tract, the metabolic activities of synthetic hormonal components of oral contraceptives affect nearly every other organ system of the body.

During lactation the amount of milk produced is diminished, and the concentration of protein and fat in the milk is reduced; also, measurable amounts of the hormonal compounds can be found in the milk. You can see why it is especially dangerous to take these substances while lactating. It would have severe adverse effects upon the infant.

Serum protein changes occur while taking the pill. Serum copper and iron levels are increased, while tests of thyroid function are altered to the same extent that occurs in pregnancy; e.g., thyroxine-binding globulin capacity increases, while free thyroxine remains normal.

In some individuals, deep vein thrombophlebitis and thromboembolism occur. Thrombus formation appears to be related to increases in blood clotting factors, an increase in the number of platelets, and increased platelet adhesion. These changes are the result of the estrogenic component, and the increased incidence of thromboembolism is related to the amount of estrogen given.

Central nervous system effects of oral contraceptives include stroke, nausea and vomiting, headache and depression. The incidence of stroke is three times greater in oral contraceptive users than in nonusers. Alterations in glucose metabolism have also been associated with oral contraceptives. Serum levels of some vitamins, trace elements, and lipids may be altered by these drugs. Levels of pyridoxine and folic acid and most other vitamins, as well as ascorbic acid, calcium, manganese, and zinc, are decreased, while vitamin A levels are increased. Serum lipid levels, mainly triglycerides, are elevated in nearly all oral contraceptive users, and cholesterol concentration is increased in many. Studies have proven hat this increase in triglycerides is a direct result of the synthetic estrogen.

Discoloration of the skin occurs in some women indicating that the body is trying to discharge this drug via that route.

Concerning the dangers of the pill, Dr. Mendelsohn says,

> "In 1977, the FDA required a warning brochure emphasizing the astronomical risk of cardiovascular disease among women over forty taking the Pill. Whether these warnings will do much good remains to be seen. Women over forty are still taking the Pill, either because they are not properly informed or because they choose to accept the risks. The overwhelming

majority of women on the Pill are under forty. The risks are great for these women, too, and they include not only cardiovascular disease, but liver tumors, headaches, depression, and cancer. While taking the Pill over age forty multiplies the risk of dying from a heart attack by a factor of five, from age thirty to forty the Pill multiplies it by a factor of three. All women taking the Pill run a risk of high blood pressure six times greater than women not taking it. Their risk of stroke is four times greater, and their risk of thromboembolism is more than five times greater

Doctors maintain the enormous market for the Pill by telling women it's safer to take the Pill than to get pregnant. Of course, that argument defies logic as well as science. First of all, the dangers of the Pill are just beginning to surface. They are the dangers of an unnatural substance interfering with body processes. Pregnancy, however, is a natural process, which the body is prepared to deal with—unless it is unhealthy in some way. To take the Pill is to *introduce* disease into the body. Comparing the risk of pregnancy to the risk of taking the Pill illogically jumbles together rich women, poor women, healthy women, sick women, women on the Pill, women off the Pill, women using other contraceptives, women using no contraceptives, married women, single women, teenagers, adults, promiscuous women, and non-promiscuous women. When these women get pregnant, they already bring to the statistics risk factors which have nothing to do with pregnancy."

9. Hysterectomy

Dr. Mendelsohn notes the frequency of unnecessary surgery. He says, "Women also seem to be the victims of a lot of unnecessary surgery. Another operation steadily climbing toward the million-a-year mark is the hysterectomy. The National Center for Health Statistics estimated that 690,000 women had their uteruses removed in 1973, which results in a rate of 647.7 per 100,000 females. Besides the fact that this is a higher rate than for any other operation, if the rate continued, it would mean that half of all women would lose their uterus by age 65! That's if the rate holds steady. Actually, its *growing*. In 1975, 808,000 hysterectomies were performed.

"Very few of them were necessary. In six New York hospitals, forty-three percent of the hysterectomies reviewed were found to be unjustified. Women with abnormal bleeding from the uterus and abnormally heavy menstrual blood flow were given hysterectomies even though other treatments—or no treatment at all—would have most likely worked just as well."

10. Male Infertility

A recent article in *Health Fact News* explained that the reason that many men have difficulty in fathering children is that their sperm clump together instead of swimming singly. Stuck to each other in this fashion, individual sperm can't get enough momentum for any one of them to penetrate and fertilize a

female egg.

The authors of this article suggest taking doses of vitamin C since this vitamin is shown to be deficient in those men whose sperm tend to clump. Vitamin C is present in many foods, but it is destroyed by heat. Thus, if you eat a diet of totally cooked foods, this vitamin may be lacking enough to result in sperm clumping. Even a small amount of raw fruits and vegetables in your daily diet will more than adequately meet your requirements for vitamin C. In synthetic (pill) form, this vitamin is unusable by the body and therefore toxic.

Most often, male infertility cannot be traced to any one particular thing, but results after a lifetime of unhealthful practices.

11. Prostatic Enlargement

The prostate gland is a conical body about the size of a chestnut lying in front of the bladder. It surrounds the first inch of the urethra and secretes a thin, milky, alkaline fluid which aids in maintaining the viability of sperm cells. In older men a progressive enlargement of the prostate commonly obstructs the urethra and interferes with the passage of urine. At this point, surgical removal of a part of the prostate gland is often performed.

You should not be too hasty in submitting to such surgery. Where the obstruction is not due to fibrous tissue or cancerous growths, a fast will take care of the problem.

Regarding prostatic enlargement, Dr. V. Virginia Vetrano says: (*Dr. Shelton's Hygienic Review*, 6/76)

> The condition is sometimes remediable by Hygienic means and sometimes is not. If the individual's lifestyle has been totally anti-biotic, by the age of forty many degenerative changes have already begun. These changes are atrophy (decrease in size) of the smooth muscle cells, and an increase of fibrous tissue with the deposition of collagen fibers. Also the epithelial cells change from tall column-like cells to shorter cells. The deposition of fibrous tissue and changes in epithelial cells come about because of chronic irritation. Irritation, from excess toxins in the blood and tissues, causes the destructive changes to take place in the gland. The same toxic condition which creates irritation in the prostate gland itself also irritates other tissues of the body. The endocrine glands, such as the pituitary and adrenal cortex, are effected by toxemia. Toxemia causes their secretions to be excessive or out of balance with each gland. It is also well known that hyperplasia develops from irritation."

Dr. Vetrano points out that when the gland is mainly hyperplastic with more glandular and epithelial cells than fibrous tissue then the condition is remediable. At any rate, fasting should be tried before surgery is resorted to.

12. Abnormalities Of Pregnancy

12.1 Spontaneous Abortion (Miscarriage)

About 20 to 30% of women bleed or have cramping sometime during the first 20 weeks of pregnancy; 10 to 15°/o actually spontaneously abort. Since in 60% of spontaneous abortions the fetus is either absent or grossly malformed, and in 25 to 60% it can be found to have chromosomal abnormalities incompatible with life, spontaneous abortion may be a natural rejection of a maldeveloping fetus. In other words, it is a response of the body to things that are abnormal.

But if the woman is healthy, miscarriages will not occur and the fetus will not maldevelop. According to the *Merck Manual*, "Maternal factors that have been suggested as causes of spontaneous abortion include an incompetent, amputated, or lacerated cervix; congenital or acquired anomalies of the uterine cavity; hypothyroidism; diabetes mellitus; chronic nephritis; acute infection; or severe emotional shock. Many viruses, mostly notably cytomegalo-, herpes-, and rubella viruses, have been implicated as causative."

Diabetes mellitus cannot be considered the cause of miscarriages as diabetes is a symptom in itself. The same is true of all the so-called "causes" listed by this manual. The underlying causes of all these disorders is toxicosis and that is also the cause of spontaneous abortion. Likewise, viruses are not the cause of any so-called "disease." They are lifeless particles of waste materials and cannot "cause" anything.

12.2 Anemia

Anemia during pregnancy is defined as a hemoglobin concentration of less than 10 grams per 100 ml of blood. (Normal averages 14-16 gm/100 ml.) Most anemia during pregnancy is said to be due to dietary iron deficiency, to normal loss of iron in blood with menses which approximates the amount normally ingested each month, so iron stores are never built up, or to previous pregnancy.

Dietary deficiencies of iron could easily occur on the "junk-food diet" that many women eat. Food that is so processed and overly cooked is either devoid of iron completely or this mineral is so changed that it is unusable. Certain foods will interfere with the absorption of iron. Good examples include onions and spinach.

Where does the Hygienist get iron? From just about everything eaten! When you eat your food raw and in compatible combinations, the iron that you receive is readily absorbed and utilized by your body. A large raw salad every day will supply adequate amounts of iron. Other sources high in iron include pistachio nuts, sunflower seeds, almonds, raisins, Brazil nuts, filberts, dates, figs and to a lesser extent all other fruits, vegetables and nuts. The Hygienist need not worry about this dietary factor.

Iron-deficiency anemia is often treated with supplements of inorganic iron. However, it is quite obvious that the body cannot handle iron in this form. This is evidenced by the toxic symptoms upon ingesting this drug.

12.3 Preeclampsia and Eclampsia

Preeclampsia is accompanied by the development of hypertension, albuminuria (excess protein in the urine), or edema between the twentieth week of pregnancy and the end of the first week postpartum. Eclampsia is accompanied by coma and/or convulsive seizures in the same time period.

Physicians consider any pregnant woman who develops a blood pressure of 140/90, edema of the face or hands, or albuminuria of 1+ or greater to have preeclampsia. This condition will not occur if you live

healthfully. Only a very toxic individual will experience signs and symptoms of preeclampsia or eclampsia. Both of these disorders are symptoms of toxemia.

13. Some Reasons For Abnormalities During Pregnancy

13.1 Alcohol

The teratogenetic effects of alcohol consumption are well known. It has now been found that drinking during pregnancy can severely damage fetal muscles. Scientists found that the muscle cells from the infants were abnormally small, and that the proteins in the muscles were frayed and entangled rather than uniform and parallel.

Children of some women who averaged only one ounce of pure alcohol daily (two standard drinks) during pregnancy showed significantly decreased birth weights. Even women who reported drinking as little as one ounce of alcohol twice weekly experienced "sizeable and significant increases in spontaneous abortions" when compared with nondrinking women.

Fetal alcohol syndrome, a condition characterized by specific facial abnormalities, growth deficiencies, central nervous system disorders and mental retardation appears to be triggered predominantly by chronic alcoholism in pregnant women, although heavy smoking, stress and poor nutrition also contribute to the syndrome's severity.

13.2 Caffeine

It has been reported that, in rats, a caffeine dose as low as an equivalent four cups per day can enhance the teratogenetic effects of other agents. Dr. Jacobson suggests that if one estimates the safe human dose as 1/100 of the toxic animal dose (a rule of thumb often used), a fraction of a cup of coffee would be considered unsafe. Two human studies have shown evidence of birth defects related to caffeine intake. In one case there was a correlation of toxicity with consumption of more than eight cups of coffee per day by the mother. In another study, heavy caffeine consumption was associated with breech presentations, history of loss in previous pregnancies and decreased activity and muscle tone.

Dr. H. Nishimura and his colleagues at Tokyo University found that injecting 100-200 milligrams of caffeine per kilogram of body weight into pregnant mice induced birth defects in six to twenty percent of the offspring. In three additional studies conducted in Germany, France and England, caffeine was fed to pregnant mice in amounts corresponding to 25 cups of coffee per day for a woman (50 to 75 milligrams per kilogram). Birth defects occurred in one to three percent of the baby mice in two of the studies but were not observed in the third. Higher oral dose of caffeine, 100 to 150 milligrams per kilogram caused malformations in eight to twenty percent of the fetuses, respectively.

13.3 Smoking

In a study of pregnant women, researchers found carboxyhemoglobin levels in the fetus to be 1.8 times as great as those in the simultaneously measured Wood of the mother. Fetal blood was exposed to carbon monoxide in vitro.

Harlap and Davies studied infant admissions to Hadassah Hospital in West Jerusalem and found a

relationship between admissions for bronchitis and pneumonia in the first year of life and maternal smoking habits during pregnancy. Data on maternal smoking habits after the birth of the child were not obtained, but it can be assumed that most of the mothers who smoked during pregnancy continued to smoke during the first year of the infant's life. A relationship between infant admission and maternal smoking habits was demonstrable only between the sixth and ninth months of infant life and was more pronounced during the winter months when the effect of cigarette smoke on the indoor environment would be greatest. Mothers who smoke during pregnancy are known to have infants with a lower average birth weight than the infants of nonsmoking mothers. The relationship between maternal smoking and their infants' admission to the hospital found in this study was greater for low birth weight infants, but was, also found for normal birth weight infants. Harlap and Davies demonstrated a dose-response relationship for maternal smoking and infant admission for bronchitis and pneumonia; however, they also found a relationship between maternal smoking and infant admission for poisoning and injuries.

13.4 Diet

Proper diet before and during pregnancy is extremely important for the welfare of the mother and fetus. The common practice of eating large amounts of highly-refined foods, cooked foods, candies, pastries, canned foods, etc., is one major cause of illness during pregnancy and physical degeneration of our youth.

The time to improve your diet is before conception. It is important to have a pure and properly functioning body so that the fetus can grow and develop normally. When you eat foods that are laden with chemicals and other poisons, your health and that of your unborn child will be adversely affected.

The diet that is most conducive to health is such a simple one that everyone can adapt it. Simply eat those foods that nature has provided us with—raw fruits, vegetables, nuts and seeds. Optimum nutrition will be assured on such a diet.

13.5 Exercise

Exercise is essential for total health and well-being. When you engage in a regular exercise routine, your circulation, digestion and assimilation will improve, and all organs will work more efficiently.

With proper exercise, diet, rest and sleep, fresh air, sunshine, pure water and all the other essentials for health, reproductive disorders will not occur and total health will be assured.

14. Questions & Answers

I understand that specific exercises will cure certain disorders of the reproductive organs. Is this correct?

> Exercise will not cure, but it is one important aspect in the whole realm of healthful living that contributes to your general well-being.

Are there any similarities between the human menstrual cycle and that of other primates?

> By definition, the menstrual cycle begins on the first day of flow and ends the day before the next period of breeding. In the human female, the average menstrual cycle is 28 days in

length. The cycle of the chacma baboon is 32 days and amazingly regular in contrast to the wide individual and monthly variability of the human cycle. Mean menstruations are five weeks apart in the chimpanzee. The average primate cycle occupies about one lunar month. Primates (apes and men) do not have a single breeding season but are fertile throughout the year.

Why does sterility occur in some people?

Sterility in human beings may have several causes. It may result from defects in the structure of the reproductive organs. Certain diseases that have resulted from unhealthful living practices may affect the reproductive organs and cause sterility. Improper balance of the hormones produced by the pituitary gland, the thyroid gland, the adrenal glands and the sex glands may result in failure to produce eggs or sperm.

What are the sex steroids and what effect do they have on male and female characteristics?

The sex steroids, estrogen and progesterone,, are given off by the ovaries (female sex organs). These steroids are responsible for the female's smooth, soft skin; high-pitched voice; rounded hips; and the development of the breasts

Androgens are sex steroids that are produced by the testes (male sex glands). Androgens are responsible for the male's beard, large muscles and deep voice. They may even influence personality traits such as aggressiveness, which is considered a male characteristic.

Every month about five days before I begin to menstruate, I develop edema. My doctor prescribed water pills but I do not like to take medication. What can I do?

Fortunately your problem is not a big one. It can be overcome easily. First, I suggest that you try fasting for a while, about four to five days. Your total intake should be distilled water as thirst requires. Then I suggest that you start eating only fruits, vegetables, nuts and seeds, all raw and properly combined. You must not eat any salt, condiments, cooked foods, soft drinks, canned foods, processed foods, fried foods, or anything other than fresh fruits, vegetables, nuts and seeds

Water retention (edema) is due to toxic materials in the blood and lymph stream—usually inorganic materials from salt, minerals from hard water, minerals from deranged cooked foods and from irritants as found in condiments. The body buffers these toxins with, water so they will offer less harm to the cells and tissues. When you remove the causes, the problems cease.

Article #1: Sterility In Women by Herbert M. Shelton

The pattern of the case was simple and familiar: A young Italian woman had been married for five years to a virile young man, also Italian. Both wanted children and had avoided all efforts at birth control in the hope that pregnancy would take place. It did not.

She consulted several physicians who assured her that her sterility was permanent. Her father-in-law told

her of the fast and of the possibility that it might help her. She consulted a *Hygienist*.

"Will a fast enable me to become pregnant?" she asked. It was explained to her that there are different reasons for sterility and that some of them yield to the fast, others do not. After interrogation, she was told that the probability was that a fast would enable her to become pregnant.

She underwent the fast. A few weeks after the fast was broken, she conceived and later bore a bright, healthy boy. This is one case out of many of similar nature. Fasting has enabled many women to conceive after years of sterility. Many of these women give a history of menstrual irregularities, profuse flow, severe cramps that send them to bed each month, large clots, soreness of the breasts and similar symptoms that indicate endocrine (ductless gland) imbalance, inflammation of the ovaries or womb and nervous difficulties.

Others give a history of metritis (inflammation of the lining of the womb) with a more or less chronic vaginal discharge. In these latter cases, the discharge is often highly acid, sufficiently acid to destroy the sperm.

These are the types of cases that are most readily corrected and that are restored to health by a period of physical, mental and physiological rest. Few cases of female sterility are absolute; most of them are the outgrowth of conditions of disease and are remediable. Great numbers of women have found the ability to conceive restored by a restoration to good health, and a large part of these women have found the fast of inestimable value in the clearing up of conditions that prevented conception.

In passing, it may be well to mention that in those many cases of women who readily conceive, but who abort, being unable to carry their baby to full term, a restoration of good health will enable them to give birth to normal babies. A clearing up of the toxic state followed by greatly improved nutrition enables them to avoid abortions.

The most spectacular case of this kind that has come under the author's observation was that of a woman who had previously had twenty-eight spontaneous abortions. After a fast of ten days and a period on a greatly improved diet, she became pregnant and at full term gave birth to a healthy boy. Delivery was normal.

The length of fast required in cases of female sterility varies with the condition of the woman. I recall the case of a comparatively young Woman who had been married for ten years and had not conceived, although no attempt had been made to avoid it. She suffered agonies with each menstruation, going to bed every month and relieving her pains with drugs.

A fast of ten days was sufficient to permanently end her menstrual difficulties and shortly after the fast, she conceived for the first time, subsequently giving birth to a healthy baby boy. Another woman much less vigorous and sick for a number of years, took several short fasts before she conceived. Her previous period of sterility was also of about ten years duration. The young Italian woman whose story was recounted at the beginning of this chapter had a fast of thirty days.

Absolute sterility is a comparatively rare condition in both men and women and fasting can do nothing in such cases. When sterility is due to conditions of disease, rather than to defects of development, there is reason to think that both men and women can almost always profit by a fast of sufficient duration to enable the body to clear its abnormal states.

Reprinted from Fasting Can Save Your Life

Article #2: Enlargement of The Prostate by Herbert M. Shelton

The prostate gland is a part of the male sexual system. It is a somewhat conical-shaped body about the size of a chestnut, which surrounds the first one and one-half inches of the urethra. Its base is directed upward and lies in contact with the lower part of the bladder. Its upper and posterior part is pierced by the ejaculatory ducts. The gland itself is composed of muscular and glandular tissue. It secretes a thin fluid which is sent into the urethra to join with the semen.

Prostatic "diseases" are rare in early life. It is estimated that approximately 35% of men reaching the age of sixty have enlargement of the prostate gland, while sixty percent of men past middle age have at sometime or other some type of prostatic trouble.

While most cases of prostatic enlargement are said to develop after fifty, the gland actually enlarges gradually over the years. In practically all cases the enlargement sets in years before any symptoms develop.

Though we are frequently reminded that men past forty are especially liable to suffer with prostatic enlargement, it rarely causes pronounced symptoms before the fiftieth year. For this reason, it is said to be a *difficulty of later life*.

Enlargement of the prostate gland may progress over a long period and give rise to practically no warning symptoms. Indeed, prostatic enlargement, or prostatism is said to be symptomless until it produces retention of the urine.

This, however, is because we are in the habit of ignoring all of the warning signs of trouble that precede the development of all so-called diseases.

The gland surrounds the urethra and neck of the bladder and when it enlarges compresses the bladder outlet obstructing the free flow of urine. This strangulating effect on the urinary canal causes urination to be difficult and progressively more frequent, with mild burning and some dribbling.

The need to empty the bladder at night is most noticeable. The intervals at which this has to be done grow shorter and shorter. Nocturnal frequency is usually the "first" symptom, though acute retention of the urine, or sudden inability to urinate, is said, often, to be the "first" symptom and may occur at any time. It is the rule that frequent urination, both day and night, long precedes complete inability to void the urine.

When the flow of urine is fully checked, causing acute retention, a very painful and dangerous condition is the result. The retention of urine, causing it to back up, even into the kidneys, may give rise to many complications.

In the early stages of prostatic enlargement there is incontinence of the urine, distention of the lower abdomen, constipation, loss of weight, loss of appetite and dryness of the mouth. Back-pressure upon the kidneys is produced by the over-distended bladder, gradually reducing their function and producing, eventually, uremia. Enlargement or tumor of the prostate not infrequently becomes malignant-cancerous. From ten to twenty percent of them are said to develop into cancers and it is estimated that cancer of the prostate gland is present in twenty percent of all men over sixty.

Cancer develops out of sites of chronic local irritation and its concomitant hyperemia or chronic low-grade inflammation. Chronic enlargement and irritation of the prostate terms an ideal location for the evolution of cancer.

Recently we saw a case of prostatic enlargement that had been giving the man trouble for a period of six years. He had ignored it and it continued to grow worse. Finally, the discomfort became so great he could tolerate it no longer. He went to the hospital for an operation. Cancer was found. A condition that

was not cancer six years ago was permitted to slowly evolve into cancer. This was a needless and preventable development.

The cause of prostatic enlargement is said to be "obscure," which is the equivalent of saying, it is unknown. It is also said to be "apparently a part of the aging process, associated with glandular changes that occur in middle life." If these things were really true, prostatic enlargement would present a truly dark picture.

Removal of the prostate, so freely advised and so often performed, is a dangerous procedure and frequently very "unsatisfactory." It is not necessary, as out experience with prostatic enlargement has amply proven.

While overeating or drinking, alcoholism, exposure to wet and cold, and long continued resistance to the call of nature, often precipitate a crisis and are commonly listed as causes, they are not primary causes. "Chronic gonorrhea" if often listed as a cause but this delusion must sooner or later be given up.

Prostatic enlargement rests primarily upon a basis of chronic toxemia growing out of a mode of living that inhibits elimination. There is reason to believe that sexual abuse may constitute a leading factor in its development.

It has been our experience that when toxemia is eliminated, the enlarged prostate returns to its normal size and all symptoms end. Cases we have cared for include those in which voluntary voiding of urine was no longer possible. The catheter had to be used until a few days of fasting produced sufficient decrease in the size of the prostate that voluntary urination was again possible.

A recent case cared for here at the Health School was forced to void urine every fifteen minutes during the night and very frequently during the day. The man underwent a lengthy fast which brought immediate and progressive subsidence of symptoms, until finally he was able to go for fifteen hours without voiding urine.

Our plan of care is to ignore the prostate and eliminate the toxemia, restore nerve energy and re-order the sufferer's mode of life. Rest in bed and fasting are accompanied by exercise and sunbaths and followed by proper diet with exercise and sunbaths. We do not use and do not recommend (rather we condemn) massage of the prostate, nor any other form of local treatment—drug, electrical, etc.

Exposure or overdoing, react immediately upon the prostate sufferer. Cold, wet feet, etc, that result in congestion in these sufferers, must be avoided. Indeed every enervating influence must be corrected or removed if nerve energy is to be become normal and dependable health be restored. This means that coffee, tobacco, alcohol, soda fountain poisons, overeating, etc., must all be discontinued.

The permanence of recovery depends upon proper care of the body. Any return to enervating habits will reproduce the toxemia and result in a recurrence of the enlargement.

The logical plan to be pursued by intelligent men is to live in a way to maintain good health and thus avoid prostatic enlargement. If the gland has already enlarged, the intelligent man will attend to it promptly and not neglect the condition until acute retention of the urine occurs, or until cancer has evolved.

Reprinted from Dr. Shelton's Hygienic Review, April, 1942

Article #3: Ballerina Syndrome? Or Medical Ignorance?

In July 1981, the prestigious *New England Journal of Medicine* published an extensive study made of ballerinas by the Harvard School of Public Health. The Harvard School is mystified by a phenomenon known as "Terpsichore's Syndrome" or "Dancer's Syndrome."

What is this syndrome?

It is "delayed" menarche, irregular or nonexistent "menstruation" and other "abnormalities" among ballerinas. Many ballerinas do not start "menstruation" until 18 or later and even then a very high proportion "menstruate" only infrequently.

First, let's understand what these researchers of the Harvard School of Public Health mean by menstruation.

They do not mean the "sloughing off of the menses" which is what menstruation is, but "bloody discharge" which is not menstruation even though it accompanies menstruation almost universally in women of childbearing "age" in the modern world.

The article is primarily devoted to "reasons" and hypotheses as to why delayed menarche or menstrual abnormalities are characteristic of ballerinas. If the researchers had been looking on a broader scale they would have researched the subject more and discovered this same syndrome among the following: female tennis players, runners, swimmers, gymnasts, and in fact, all female athletes who exercise regularly and consistently. Further they would have found this syndrome among primitive females in certain areas of the world, most notably among Hunza women and among women who live thoroughly in accord with our biological adaptations per the health system advocated by Life Science!

If the Harvard School researchers had looked even farther, they might have noted that female domesticated dogs and cats often have bloody menstruation whereas their wild relatives do not.

Does not all this evidence begin to paint very plainly that the medical concensus on the subject is off-base?

In trying to explain why ballerinas do not have "normal" menarche and menstruation the following hypotheses were offered:

1. Late maturers choose to be ballet dancers.
2. Ballerinas are undernourished.
3. Hard physical exercise delays puberty.
4. The low fat/high lean ratio of body tissues may delay menarche and cause menstrual disturbances.

We'll comment on these "reasons" and hypotheses after presenting the gist of yet other discussions held at the Harvard School of Public Health. These discussions focused on the physiological agencies that triggered the onset of puberty.

The foremost hypotheses advanced were as follows:

1. Puberty is a physiological change controlled by an independent neurologic clock genetically encoded.
2. Puberty onset is triggered by a biological signal when a specific weight or body composition is reached.

In presenting these hypotheses the health officials made an observation that has a very vital bearing on the study: it was noted that ballerinas who had an injury that prevented further dancing very soon thereafter realized menarche and/or "normal menstruation."

Let's examine these hypotheses one by one in the light of established biological principles and see what truths, if any, have emerged from this study.

Saying "late maturers" choose to be ballet dancers obviously wins the dunce's award! You might as well say that people not inclined to be ballet dancers choose to mature early. Such an asinine observation implies that females have preset menarche times which would start from nine to nineteen years and only mothers whose daughters' menarche are set for the upper teens enroll their daughters in ballet.

But this first suggestion "late maturers choose to be ballet dancers" is flatly contradicted by the observation that ballerinas who sustain debilitating injuries speedily begin menarche. Don't these researchers see their own inconsistencies? Why do "late maturers" become early maturers when they are injured?

Because ballerinas eat frugally does not justify saying they are undernourished, as the article implies. Ballerinas exercise long and hard. As any fan of ballet or other dancing will tell you, ballerinas are wonderful specimens of superb femininity, fitness, beauty and health.

If our researchers wanted to see the effects of undernourishment among young women, they had only to observe certain-parts of India where undernourishment is perpetual. There, young girls consistently menstruate at ages eight to ten! America's average age of puberty onset is now ten to twelve! Does this observation point to undernourishment or something else as a cause of "late onset of puberty"? Obviously this hypothesis is unwarranted conjecture.

"Hard physical exercise delays puberty." is another witless statement though it is closer on target than the first two statements. Yes, exercise does "cause" delay of menarche and it does "cause" abnormal and irregular menstruation. I have put "cause" in quotation marks because these researchers are using the word "cause" in a misleading sense.

The statement "the low fat/high lean ratio of body tissues may delay menarche and cause menstrual disturbances" is as illogical as the attribution of undernourishment. Skinny and malnourished young Indian girls begin menarche and menstruation at eight to ten years with the same dispatch our young girls enter into it at ten to twelve years of age. So it is plain our researchers are wrong here too.

The next two hypotheses about what triggers puberty are without a great deal of relevance although both contain some truth.

Puberty does, indeed, occur in humans and all other animals in clocklike fashion at almost identical ages where environmental and extrinsic body factors are more or less the same. But, where these factors differ the time of menarche also differs. Just what are these factors that cause onset of menarche? Are they inherent factors or environmental factors or an interaction of both? Menarche, the onset of puberty, is genetically encoded— that's why, obviously, some animals reproduce within a year and others cannot reproduce until an age of many years has been attained. But, when we have members of a given species arriving at menarche with such wide variations as 8 to 18 years of age, something strange is involved. Mother Nature doesn't work that way—ask any farmer and he will tell you how close are his hens in age when they begin egg-laying or his heifers in their first heat.

The hypothesis that the onset of puberty is genetically encoded, controlled by a biological clock, does not account for such a wide variation of age on onset.

Another theory is that puberty onset is triggered by a biological signal outside the central nervous system when a specific weight or body composition is reached. Again, this hypothesis is more or less on target. Though an obviously true hypothesis, these researchers do not come close to the real reason why this hypothesis might be correct.

What is the real story?

Those who have perspicaciously examined and studied the phenomenon of menstruation (the sloughing off of the menses periodically in preparation for ovulation) observe that it is abnormal for this to be

accompanied by blood-letting. Yet menstruation accompanied by bloody discharge is abnormal, then why is it so universal?

Let's establish one thing right away. Blood discharge is, indeed, abnormal—it is unnatural. We do not observe in nature a scheme for blood-letting, discomforts, disability or disease under natural conditions. Obviously some unnatural conditions exist among creatures who exhibit variances to nature's norm.

The medical establishment and those with a medical orientation in our society regard bloody menstruation as normal and are mystified and perplexed when that periodic bloody discharge fails to put in its regular appearance. What they regard as normal is obviously unnatural by the criteria we have cited. Hence there are obviously some flaws in medical premises or assumptions on this subject.

Those who have studied the subject know that the age of onset of puberty is advancing one month every five years in our society. Can it be that our genetic encoding is evolving to make puberty in humans an ever-earlier occurrence? Why is not the same accelerated appearance of menarche occurring in wild animals too?

To arrive at the answer, all our researchers had to do was to go back to our biological basics. The foremost instinct in animal life, humans included, is preservation of self. In certain circumstances a secondary instinct becomes primary: the survival of kind or species. Nature has built into creatures a multitude of safeguards to insure against extinction.

Hence we witness under a broad spectrum of circumstances or crises this salient factor, survival of kind, (either family, tribe, community, nation, race or species) takes precedence over personal survival. This happens on a biological basis as well as on a psychological basis. Thus the instinct for reproduction of kind often asserts itself with untoward emphasis when a life-endangering situation exists. This is most dramatically expressed by a farmer's adage: "plants that are sickly go to seed quickly."

This sheds some light on the dilemma the researchers at the Harvard School of Public Health got themselves into. They failed to take cognizance of basic principles that appertain within the biological realm.

Thus it becomes apparent that the earlier the onset of menarche and reproductive faculties, the more a life-endangering situation exists for the organism. And, likewise the longer menarche requires to put in an appearance, up to a point, the more normal and salubrious is the condition of the subject organism.

Once this salient fact becomes a part of our thinking, the sooner we will begin to comprehend what the "ballerina syndrome" is all about. Ballerinas' extraordinary fitness is evident to all. Fitness and health are practically synonymous terms. Thus we begin to ascertain that menarche and "menstruation" (the kind accompanied by bloody discharge) has something to do with the woman's state of health.

A mere 150 years ago our female forebears (young women who arrived at menarche) experienced puberty at an average age of fourteen to fifteen years. In some European countries the average age was sixteen to seventeen years. The same held for some Asiatic countries, notably those ultrahealthy Hunzas whose menarche was not reached until sixteen to seventeen years of age.

The principle is thus revealed: the healthier the female the later menarche occurs, which happens when the genetically encoded biological clock decrees it. The less healthy the female, the sooner menarche occurs to offset the possibility that poor health will evolve into infertility.

In the case of the ballerinas as well as women athletes we witness but one thing: the phenomenon of health. This contrasts with a medically established "norm" of a population that is, on average, pathological!

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